FUNCTIONAL VITAMIN, MINERAL and ANTIOXIDANT ASSESSMENT

SPECTRACELL LABORATORIES
ADVANCED CLINICAL TESTING
Houston, Texas
Research proves that nutrients work synergistically so that the status of one nutrient typically impacts the status of other nutrients. This guide summarizes years of clinical experience with the micronutrient test performed on hundreds of real patients. Every vitamin and mineral should be evaluated within the context of others.

**MONITOR THE FOLLOWING sections**

For each nutrient tested, the Monitor the Following section lists other nutrients most commonly affected by a deficiency of the main nutrient listed. For example, if a patient shows deficiency in thiamin (vitamin B1), we suggest that you also pay specific attention to levels of magnesium and pyridoxine (vitamin B6). Although a deficiency may not (yet) exist in the nutrients listed under Monitor the Following, we commonly see these deficiencies develop if a deficiency of thiamin (vitamin B1) is not corrected.

**PATIENT PROFILE sections**

These are the most common clinical presentations that occur when a deficiency of the referenced nutrient exists. For example, a patient who has a thiamin deficiency often presents with neuropathies, depression, myalgia, cardiomyopathies or takes diuretics and/or eats a high carbohydrate diet. Although this list is not exhaustive, it summarizes the most common clinical conditions seen by physicians using the micronutrient test.

Use this guide to facilitate interpretation of SpectraCell’s micronutrient test, which is a very comprehensive view of nutritional status.
**Thiamin**

**Monitor the Following**
- Magnesium (phosphorylation)
- Pyridoxine

**Patient Profile**
- High carbohydrate consumption
- Diuretics
- Neuropathies
- Depression
- Myalgia
- Cardiomyopathies

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**Riboflavin**

**Monitor the following**
- Glutathione synthesis
  - Monitor glutathione levels
- Synergistic with B3 & B6
- Consider with abnormal antioxidant status
- Homocysteine

**Patient Profile**
- Migraine headaches
- Anemia (iron)
- Cheilosis
Niacin

Monitor the following

- Glucose insulin interaction
- Homocysteine levels
- Correlate B12 & folate

Patient Profile

- Diabetes
- Coronary Artery Disease

Pyridoxine

Monitor the following

- B2 and B3 status
- B2 status
- B6 status

Patient Profile

- CTS
- PMS
- Depression
- Coronary artery disease
- High protein diet
- Anemia
- Neuropathy
- Celiac disease
Vitamin B12

Monitor the following
- Folate
- Pyridoxine
- Choline
- Serine
- Homocysteine levels

Patient Profile
- CTS
- Anemia
- Depression
- Neuropathies
- Diabetes mellitus
- Coronary artery disease
- Neurodegenerative diseases
- Inflammatory bowel disease
- Migraine headaches
- Fatigue

Folate

Monitor the following
- B12 and B6
- Homocysteine
- Serine
- Choline
- Zinc

Patient Profile
- Neuropathies
- Anemia
- Coronary artery disease
- Restless Legs Syndrome
- Inflammatory bowel disease
- Colon cancer
PANTOTHENATE

Monitor the following
- B12
- Riboflavin
- Biotin
- Cholesterol
- CoQ10
- Carnitine

Patient Profile
- Stress
- Malabsorption
- Dry skin
- Neuropathies
- Burning feet syndrome
- Depression
- Immunosuppression
  - Allergies
  - Frequent illness

BIOTIN

Monitor the following
- Pantothenate
- Essential fatty acids
- Oleic acid

Patient Profile
- Myalgia
- Dry skin
- Malabsorption
- Neuropathies
- Abnormal flora
- Antibiotic usage
**Monitor the following**
- Folate
- Pyridoxine
- B12
- Pantothenate
- Thiamin

**Patient Profile**
- Neuropathies
- Neurodegenerative diseases

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**Monitor the following**
- Glutathione
- Riboflavin
- N-Acetyl Cysteine

**Patient Profile**
- Athletes
- Chemotherapy
- GI conditions
- Poor antioxidant status
**Asparagine**

**Monitor the following**
- Pantothenate
- Vitamin C
- Zinc
- Vitamin A
- Antioxidant status

**Patient Profile**
- Immunosuppression
  - Allergies
  - Infections (chronic)
- Neuropathies

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**Choline**

**Monitor the following**
- Pantothenate
- Glutamine
- Vitamin B12
- Folate
- Essential fatty acids
- Biotin
- Fat absorption
- Homocysteine

**Patient Profile**
- Neuropathies
- Coronary artery disease
- Athletes (spasms/fatigue)
- Biliary abnormalities
**Inositol**

**Monitor the following**
- Calcium
- Pyridoxine
- B12
- B1

**Patient Profile**
- Bone Mineral Density
  - Osteopenia
  - Osteoporosis
- Hormone abnormalities
- Depression
- Diabetes mellitus

**Carnitine**

**Monitor the following**
- Ammonia
- Magnesium
- CoQ10
- Pantothenate

**Patient Profile**
- Muscle fatigue
- CFIDS
- Fibromyalgia
- CHO craving
- Fat metabolism abnormalities
- Athletes
**OLEIC ACID**

- **Monitor the following**
  - Biotin
  - Pantothenate

- **Patient Profile**
  - Dry skin
  - Fat malabsorption
  - Coronary artery disease

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**VITAMIN D**

- **Monitor the following**
  - Calcium
  - Magnesium
  - Zinc
  - Niacin
  - Chromium
  - Glucose/insulin interaction
  - Spectrox

- **Patient Profile**
  - Myalgia
  - BMD abnormal
  - Diabetes mellitus
  - Immunodeficiency
  - Cancer
  - Obesity
  - Liver dysfunction
  - Renal dysfunction
  - Fat malabsorption

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Vitamin A

Monitor the following
- Zinc
- Vitamin D
- Vitamin E

Patient Profile
- Gastrointestinal conditions
- Upper respiratory infections
- Sinusitis
- Viral infections

Glucose-Insulin Interaction

Monitor the following
- Zinc
- Niacin
- Magnesium
- Vitamin D
- Chromium
- Alpha lipoic acid

Patient Profile
- Diabetes mellitus
- PMS
- Headaches
- Metabolic syndrome
- Hypoglycemia

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**Fructose Sensitivity**

**Monitor the following**
- Copper
- Glucose-insulin interaction
- Magnesium

**Patient Profile**
- Elevated TG
- Elevated uric acid
- CHO Cravings
- PMS
- Hypoglycemia
- Diabetes mellitus
- Coronary artery disease
- Soft drink consumption

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**Chromium**

**Monitor the following**
- Zinc
- Vitamin D
- Niacin
- Magnesium

**Patient Profile**
- Refined carbohydrates
- Diabetes mellitus
- Hypoglycemia
- Headaches

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**Calcium**

**Monitor the following**
- Magnesium
- Vitamin D
- Inositol
- Zinc

**Patient Profile**
- BMD abnormal
- Headaches
- Myalgia/muscle cramps
- Fat malabsorption
- Colon cancer

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**Zinc**

**Monitor the following**
- Calcium
- Glucose-insulin interaction
- Fructose sensitivity
- Magnesium
- Vitamin D
- Chromium
- Niacin

**Patient Profile**
- Diabetes mellitus
- Immunosuppression
- Poor wound healing
- Anemia
- Osteoporosis/Osteopenia
- Pregnancy
- Hypothyroidism
Copper

Monitor the following
- Zinc
- Fructose sensitivity
- Cholesterol
- Triglycerides
- Spectrox

Patient Profile
- Neuropathy
- Fructose intake (High)
- Anemia (iron)
- Uric acid (elevated)

Magnesium

Monitor the following
- Thiamin
- CoQ10
- Calcium
- Zinc
- B6

Patient Profile
- Diabetes mellitus
- PMS
- Coronary artery disease
- Hypoglycemia
- Headaches
- Muscle spasms
- Cravings
- Stress
- Diuretics
- Hypertension
**Glutathione**

**Monitor the following**
- Riboflavin
- Glutamine
- Zinc
- Vitamin E
- Selenium
- ALA
- NAC
- Vitamin D
- CoQ10

**Patient Profile**
- Cancer
- Smoker
- Athlete
- Diabetes mellitus
- Coronary artery disease
- Immunosuppression
- Neurodegenerative diseases

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**Cysteine**

**Monitor the following**
- Glutamine
- Riboflavin
- Glutathione
- Vitamin E
- Selenium
- CoQ10
- ALA
- Vitamin D
- Zinc

**Patient Profile**
- Diabetes Mellitus
- Asthma
- Cancer
- Coronary artery disease
- Immunosuppression
CoQ10

Monitor the following
- Magnesium
- Carnitine
- Pantothenate
- Vitamin E
- ALA
- Glutathione
- Glutamine
- Selenium
- Vitamin D
- NAC
- Zinc
- Riboflavin

Patient Profile
- Coronary artery disease
- HTN
- Neurodegenerative diseases
- Myalgia
- CFIDS
- Migraines

Selenium

Monitor the following
- Vitamin E
- ALA
- Cysteine
- Glutathione
- Glutamine
- Vitamin D
- Zinc
- CoQ10
- Riboflavin

Patient Profile
- CAD
- Cancer
- Celiac disease
- Neurodegenerative diseases
- HDL/LDL ratio
- Infections (chronic)
- Thyroid dysfunction
Vitamin E

Monitor the following
- Selenium
- Cysteine
- Glutathione
- Glutamine
- Zinc
- ALA
- CoQ10
- Vitamin D
- Riboflavin

Patient Profile
- CAD
- Neurodegenerative diseases
- Cancer
- FBD
- PMS
- Fat malabsorption
- Neuropathies

Alpha Lipoic Acid

Monitor the following
- Vitamin E
- Vitamin D
- Glutathione
- Glutamine
- Cysteine
- CoQ10
- Zinc
- Selenium
- Riboflavin

Patient Profile
- DM
- Neuropathies
- Myalgia
- Fat malabsorption
Vitamin C

Monitor the following
- Cholesterol
- Spectrox
- Calcium
- Zinc
- Copper

Patient Profile
- Stress
- Athlete
- Gallstones
- Surgery
- Immunodeficiency
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